

Physics 112: Dynamics

1. The tendency of an object to resist any changes in its motion is -----.
2. Buridan believed objects had -----.
3. ----- is credited with first defining inertia.
4. ----- and ----- make up the field of mechanics.
5. Einstein showed that ----- mass and -----mass are essentially the same.
6. Gravitational forces always work in -----.
7. ----- is the force of gravity acting on a mass.
8. Your ----- never varies, your ----- does.
9. Your weight would be ----- on the moon as opposed to the Earth.
10. Examples of non-contact forces include -----.
11. ----- is a fairly weak force, but has an infinite range.
12. The acceleration of gravity ----- depend on mass.
13. Values for ***g*** vary around the world because the Earth is not actually -----.
14. Static frictional forces are ----- than kinetic frictional forces.
15. ----- is the symbol for the coefficient of friction.
16. Frictional forces vary depending on the ----- interacting.
17. The normal force is ----- to the surfaces of the interacting objects.
18. The frictional force is always ----- the direction of the motion of the object.
19. The frictional force is independent of ----- only if the mass of the object is evenly distributed.
20. The units for ***μ*** are -----.
21. If the net force acting on an object is zero, there is no -----.
22. Newtonian mechanics considers ----- things travelling at ----- speeds, while Quantum mechanics deals with ----- things travelling at ----- speeds.
23. Einstein proposed that ----- and ----- were two forms of the same thing.
24. Newton's ----- Law is the Law of -----.
25. An ----- frame of reference is at rest or moving at a constant velocity.
26. A non-inertial frame of reference is -----.
27. When applying Newton's 2nd Law, the force is always the ----- force.
28. The units for force are -----.
29. Our lab showed that acceleration is ----- ----- to force and ----- ----- to mass.
30. A Newton is a -----.
31. Newton's 3rd law states that for every ----- force there is a ----- force.
32. The direction of an ----- vector is the direction you would push on an object to cause the change in motion.
33. In an elevator, starting to ascend, or stopping while descending is ----- acceleration.
34. If gravity is the only force acting on you, you are -----.
35. Air resistance is complicated to analyse because it ----- as velocity -----.

36. Terminal velocity is achieved when ----- equals -----.
37. When an elevator rises and slows, or starts to descend, the acceleration is -----.
38. The variable connecting kinematics and dynamics is -----.
39. When analysing motion on an -----, the force of gravity must be resolved into -----.
40. The ----- component of the force of gravity influences the acceleration an object on an incline.
41. The ----- component of the force of gravity influences the ----- acting on an object on an incline.
42. If an object is at equilibrium, the net forces acting on the object equal -----.
43. Two conditions of equilibrium occur when an object is at -----, or at -----.
44. Newton's ----- Law applies to #43.
45. If an object is not at equilibrium, it must be -----.
46. Newton's -----Law can be applied in #45.